



Corps Planning: Risk-Informed Planning

U.S. ARMY CORPS OF ENGINEERS

BUILDING STRONG®

The Corps of Engineers and Corps Planning

The U.S. Army Corps of Engineers (USACE) is the Federal government's largest water resources development and management agency. USACE began its water resources program in 1824 when Congress directed USACE to survey and improve the nation's river navigation systems. In the 20th century, USACE became the lead Federal flood control agency and significantly expanded its civil works activities, becoming a major provider of hydroelectric energy and the country's leading provider of recreation. In the late 1960s, the USACE Civil Works program added aquatic ecosystem restoration to its primary mission areas. Today, in addition to its primary missions of flood risk management, navigation, and aquatic ecosystem restoration, the USACE Civil Works program is engaged in ecological and cultural resources management programs at its water resources projects and regulates certain activities in the Nation's wetlands.

The Corps Planning program delivers water resources solutions to the Nation by:

- Preparing for and adapting to future water resources needs;
- Collaborating with our partners and stakeholders through intentional and transparent communication;
- Integrating interdisciplinary perspectives, technical analysis, and societal values to illuminate decisions; and
- Applying a scalable, disciplined, and risk-informed process to advise decision makers.

Scalable, Disciplined, and Risk-Informed Planning

USACE Civil Works Planning has always been about solving problems and making decisions under uncertainty. With today's complex challenges and limited resources we must be more efficient and effective in how we conduct planning studies.

USACE follows the six-step planning process defined in the Economic and Environmental Principles and Guidelines for Water and Land Related Resources Implementation Studies (P&G) developed in the 1980s to guide the formulation and evaluation studies of the major Federal water resources development agencies. This process is a structured approach to problem solving which provides a rational framework for sound decision making. The six-step process is used for all USACE planning studies, regardless of scale.

The six step planning process:

- Step 1 - Identify problems and opportunities
- Step 2 - Inventory and forecast conditions
- Step 3 - Formulate alternative plans
- Step 4 - Evaluate alternative plans
- Step 5 - Compare alternative plans
- Step 6 - Select a plan

It is important to stress the iterative nature of the six-step process in water resources project planning. The six steps, though presented and discussed in a sequential manner for ease of understanding, usually occur iteratively and sometimes concurrently. Iterations of steps are conducted as necessary to formulate efficient, effective, complete, and acceptable plans.

In 2012, USACE implemented SMART (Specific, Measurable, Attainable, Risk-Informed, Timely) Planning for conducting civil works feasibility studies for water resources development projects. The SMART Planning process still relies on the structured six-step planning process, and is intended to improve and streamline feasibility studies, reduce their cost, and expedite their completion by acknowledging uncertainty and using only the level of detail needed to make a risk-informed decision.

In recent years, there has been a tremendous advance in standardization of risk language, the tools of risk assessment, and the practice of risk analysis within USACE.

Building on these advancements, in July 2017 the USACE Institute for Water Resources published the Planning Manual Part II: Risk-Informed Planning. The manual provides a methodology for applying the six-step planning process in a risk management framework (figure 1) – emphasizing methods for realizing the R (risk-informed) in SMART Planning.

By placing the six-step planning process in a risk management framework, USACE Planning teams are better able to identify and communicate the way they use information and reduce uncertainty to inform decisions through iterations of the risk-informed planning process. The approaches and techniques of risk-informed planning provides USACE and our partners with tools to efficiently reduce uncertainty by gathering only the evidence needed to make the next planning decision and to manage the risks that result from doing so without more complete information.

For More Information

The Planning Community Toolbox, www.corpsplanning.us, is a publicly-available one-stop shop for resources, tips, and tools for Civil Works Planning.

The toolbox includes links to guidance, the “SMART Guide” for feasibility studies, an overview of the Corps project delivery process, and the Planning Manual and Planning Manual Part II: Risk Informed Planning.

Throughout the toolbox, you will find links to training, webinars, newsletters, and more.

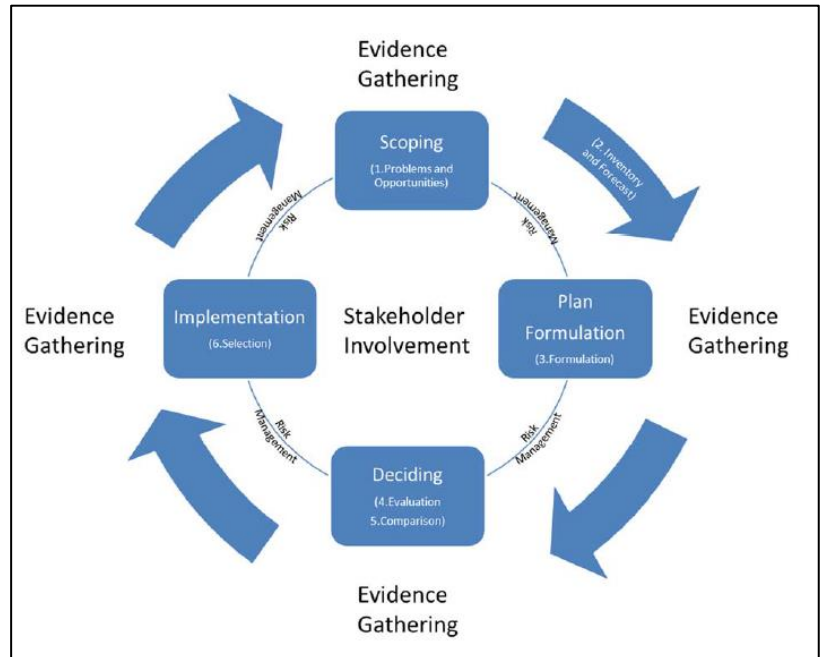
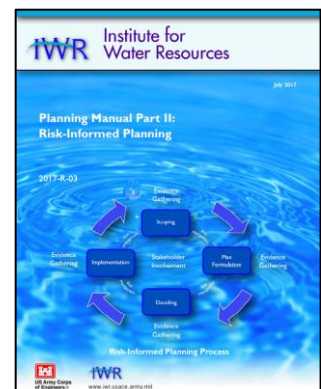


Figure 2: Applying the six-step planning process in a risk management framework



The Planning Manual and Planning Manual Part II: Risk Informed Planning provide a logical “how to” approach to Corps Planning and applying the structured, disciplined, risk-informed six-step planning process.